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This report is preliminary and has not been edited or reviewed for conformity with Geological Survey standards and nomenclature.

PLATE 5 GEOLOGY OF THE MONTEREY BAY REGION, CALIFORNIA EXPLANATION Scarp at head of slump. Queried where location is uncertain or feature is ill-defined Solid where fault is well defined; dashed where approximately located or poorly defined; queried where questionably located or obscure; dotted Thin bedded Miocene siliceous shale thrust westward over Quaternary (most where concealed. U, upthrown side; D, downthrown side. U and D indicate apparent displacement of rocks, but do not necessarily indicate true direclikely Sangamon) marine terrace deposits. Offset less than 100,000 years old. Fault plane strikes N30°W and dips 45°NE with 25 feet maximum tion of movement along fault SEA FLOOR SCARP throw. (J. G. Evans and Kenneth Lajoie, written commun., 1971; also Scarp located generally at the shelf break. Scarp may be associated with downslope creep of surficial see Clark, 1970). Fifteen feet of vertical offset sediment or may be an erosional feature of wave cut of lowest marine terrace where main strand of San Gregorio fault origin that formed during a time of lower sea level. Scarp appears locally to occur near recent faults Linear arrangement of topographic -features and bedrock irregulariintersects the coast (W. Bradley, oral commun., 1971). FAULT and may be associated with faulting Showing relative horizontal movement. Dashed where approximately located or inferred; dotted where ties across the lowest marine terrace. Evidence is suggestive of a near vertical fault striking N30 W. A shear zone in bedrock Offsets of these terrace deposits are considered SUBSURFACE SLUMP BREAK is exposed where lineation inter-sects the south shore. Alluvial by R. H. Jahns and D. H. and estuarine deposits dated at 10,200 years B.P. by Cl<sup>4</sup> (W. Bradley in Wright, 1972) exposed in sea cliff have been folded by Trace of subbottom breaks with no surface displace-Hamilton to be caused by ment, associated with probable gravity sliding.

Identified in seismic reflection profiles by bent landslide movement rather than tectonism (verbal or displaced subbottom reflectors commun., 1971). right-lateral and vertical move-ments along this structural lin-eation. The rocks west of the OFFSHORE SURFACE FAULT fault have been elevated relative to those east of the fault; the Solid where fault exhibits well-defined topographic displacement on sea floor; dashed where approximately total vertical and horizontal components of displacement are located and poorly defined; queried where uncertain whether sea floor displacement is associated with not known, however. A bedrock ridge extends several hundred UNORIENTED FAULT meters southward beneath Ano Nuevo Bay. (Gerald Weber, Fault or fault-like feature where trend or orienta-Kenneth Lajoie, and John tion is uncertain Tinsley, written commun., 1972 and 1973). Dashed where approximately located or inferred. Sawtooth on upper plate TERRACE OFFSET Offset in terrace deposits along coast that have been or seem to have been offset by faulting. Displacement too small to show on map but significant because displacement apparently occurred within about last 100,000 years ZONE OF POOR ACOUSTICAL REFLECTIVITY OFONTES I About 300 meters of vertical separa-About 2,440 meters of vertical tion according to gravity profiles separation according to gravity profiles by Fairborn (1963). GEOPHYSICAL TRACKLINES IN THE MONTEREY BAY REGION Solid lines represent 1969 and 1970 USGS tracklines; dashed lines represent Scripps Institution of Oceanography 1970 Antipodes tracklines; dotted dashed lines represent other tracklines run by Scripps prior to 1970. S ea level Topographic base from U. S. Geological Survey 1:250,000 series: San Francisco, 1964, San Jose, 1966; Santa Cruz, 1958. Bathymetry from U. S. Coast and Geodetic Survey Chart 5402, Pt. Sur to San Francisco, California. Detailed bathymetry of Monterey Bay constructed from soundings made by the USGS, 1967. MIO. FAULT MAP OF THE MONTEREY BAY REGION, CALIFORNIA By AGES OF OFFSHORE FAULTS Faults on land from compilation by Brabb (1970), Clark (1970a and b), Durham (1970), Jennings and Burnett (1961), and Jennings and Strand (1958). Faults modified in the H. Gary Greene Diagrammatic cross section illustrating the various ages of faults and showing how these ages are represented by depth symbols on the map. Symbols are placed at points where the fault has been geographically located from seismic reflection data, that is, symbols show control points used in locating the faults and are positioned where a geophysical trackline crosses 1977 Monterey to Moss Landing area from data by Bowen (1969) and unpublished theses by Sieck (1964), and Fairborn (1963). Sur fault zone SCALE 1:200,000 modified from unpublished thesis by Gilbert (1971). 4 NAUTICAL MILES Faults that displace the sea floor are shown by bar and solid square on the downthrown side.

— Faults that extend to within 6 meters (i.e., the base of the bubble pulse as described in the appendix) but do not displace the sea floor are shown by an open square; some of these the appendix) but do not displace the sea floor are shown by an open square; some of these faults may displace Holocene deposits (deposits 0 to 10,000 years old). Faults that extend to the base of, but not into, the Holocene deposits are shown by a solid circle. Faults that cut middle and late Tertiary rocks (Miocene and Pliocene rocks in the Monterey Bay area) and may extend up to the base of Pleistocene deposits (deposits 10,000 to 1.8 million years old) are shown by an open circle. Faults that extend up into Pliocene strata are shown by a solid triangle. Faults that extend up into Miocene strata are shown by an open triangle. Faults that extend up into Miocene strata are shown by an open triangle. Faults 6 KILOMETERS Modified after Greene and others (1973) - 200 feet (60 meters) - 100 fathoms (600 feet or 183 meters) Onland contour interval

Offshore contour interval

detailed Monterey Bay area - 10 meters to a depth of 100 meters

- 50 meters at depths greater than 100 meters

that exist at 200 to 500 meters but do not cut the Cretaceous basement rocks have no depth symbol. Faults that show separation in Cretaceous basement rocks and may extend no more than 100 meters into overlying strata of probable early to middle Tertiary age are shown by a